A New Crystalline and Coloured Body in the Urine.

PLOZ (*Zeits. f. physiolog. chemie*, Band vi. p. 505, 1882) has recorded the following which is of especial interest: A patient with pyelitis and chronic parenchymatous nephritis, presented in the sediment of the urine a crystallized and coloured material, bearing no analogy to any known substance. For some time the patient passed urine which was decomposed, alkaline, giving the ammonia and sulphuretted hydrogen reactions, very cloudy, with a sp. gr. of 1014. Microscopic examination showed pus-corpuscles, a few blood-disks, epithelial cells, and cylinders of various kinds, crystals of ammonio-magnesian phosphates, and a crystallized deposit of indigo-blue colour. On exposure to the air the surface of the urine took a greenish-brown colour, which disappeared when kept for some time in a closed vessel. On exposure to the air in a thin layer, the surface of the urine took a greenish-brown colour, passing to a permanent red. Microscopic examination showed that the quantity of indigo was increased, and that there also existed another crystallized substance of a violet-red colour, very distinct from the indigo crystals, forming needle-like bundles and rhombic tables. It was obtained by acidulating the urine with hydrochloric acid, then shaking in the presence of air in thin layers; then letting it stand for eight or ten hours until completely coloured; it was shaken up with alcohol or ether, which dissolved out the colouring matter with a trace of indigo, the presence of the latter being determined by spectrum analysis. The solution of this new substance in chloroform or ether presented characteristic absorption bands—one between D. and E., nearer to D., and two others between J. and F., nearer F. These bands differed completely from those of indigo, the bands of which were not seen. A solution of the substance in chloroform was neither affected by the presence of air, by boiling, nor by the action of acids or alkalies. On evaporation the solution left a few traces of indigo and red crystals. The patient died eight days after coming under observation, having taken no medicine. Ploz remarks that this substance has neither the characteristics of uro-erythrine nor uro-rubrohematin, and he is inclined to consider it as a new substance.—*Revue des Sciences Médicales*, April, 1883.

Urine Ferments and Fermentation.

BECHAMP, in a paper on this subject, draws the following conclusions: 1. Atmospheric germs cannot enter the bladder by the urethra; this is anatomically impossible. 2. Even supposing that ferment germs enter the bladder during catheterization, they are not the cause of ammoniacal fermentation. 3. Though the existence of atmospheric microzymes and their tendency to evolute into bacteriæ may be affirmed, it is certain that they are not the immediate cause of ammoniacal fermentation of the urine. 4. Bacteria may exist in the urine or in the bladder without ammoniacal fermentation taking place. 5. When urine becomes ammoniacal in the bladder the phenomenon is due to some morbid state of the urinary apparatus or to a diabetic state. 6. The fact that urine may be ammoniacal in the bladder, and that that state is due to the presence of infusoria, demonstrates that there is a functional difference between microzymes in the normal state and microzymes very similar to those of fermentation, which have become morbid on account of some lesion of the urinary apparatus or to some general diseased state. 7. The zymosis which causes fermentation of the urea is the result of morbid alterations of the function of the microzymes, for every soluble ferment is secreted by some organized substance, cell, or microzyme. 8. The ferments of ammoniacal fermentation may cause sugar and fecule fermentation. 9. There is an acid fermentation of urine, and the ferments of that fermentation are similar to those of ammoniacal fermentation. These ferments also act on starch and cane sugar. 10. One can always, with the aid of carbolic acid or creasote, stop the evolution of microzymes in normal urine and its ammoniacal fermentation.—*Bull. de l'Acad. de Méd.*, 2me série, t. x.

Hemorrhage by Vaso-motor Irritation.

M. **Brown-Séquard** has observed hemorrhages under the occipito-atloid membrane and in the cavity of the fourth ventricle in birds whose neck had been cut off at the level of the fifth or sixth cervical vertebra. These hemorrhages did not result from the effusion of blood from the section and reascending toward the cervical region, for the intermediate space contained no effusion. He thinks that these hemorrhages are similar to those seen in different organs following lesion of the upper part of the cord, and refers them to a vaso-motor irritation produced by lesion of the central nervous system, and is inclined to explain them by this mechanism; the vaso-motor irritation producing at once energetic constriction of the arteries and veins, determines also a forcible projection of blood into the capillaries, the walls of which yield to the excess of internal pressure.—*Gazette Hebdom.*, April 20, 1883.

MATERIA MEDICA AND THERAPEUTICS.

Physiological Effects of Cinchonidine.

MM. G. **Sée** and **Bochefontaine** have made a series of physiological experiments with a sample of cinchonidine, the purity of which was proved by Oeschner and Coninck.

Toxic Properties.—Frogs succumbed to gr. ¼ of sulphate of cinchonidine introduced subcutaneously; dogs to ℈ij given in the same manner. Pigeons and rabbits were not so much affected.

Physiological Effects.—These were in accordance with those noted by Raffestie (1876), Weddell (1877), and Cerna (1879). They were similar to the effects of quinine and cinchonine, the convulsions and salivation of the last being more pronounced in the dog, just as the vomiting from cinchonidine is more noticeable in that animal. None of these agents produced convulsions in the frog, and they are frequently absent in rabbits and dogs, and are only produced by toxic doses; consequently none of them can be classed without restriction as convulsive agents, such as strychnia; their place is rather among the substances which depress the central nervous system after momentarily exciting the circulation. It may be remarked that on man; in the normal state (the experiments being made on one of the authors of the memoir), sulphate of cinchonidine produces acceleration of pulse, increased surface heat, etc.; that is to say, a collection of symptoms which is ordinarily combated therapeutically by sulphate of quinine.—*Gazette Hebdom.*, April 20, 1883.

Physiological Action of Veratrine.

MM. **Pécholier** and **Redier**, after a series of experiments on frogs, rabbits, and dogs, draw the following conclusions as to the action of veratrine:—

1. *Local action.*—It has a topical irritating effect on the skin and mucous membranes, which is augmented when the derma is removed. 2. *Digestive*